


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P/63299/U63		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/B 03/00513		International filing date (day/month/year) 23.01.2003	Priority date (day/month/year) 23.01.2002
International Patent Classification (IPC) or both national classification and IPC H01P3/12			
Applicant MARCONI COMMUNICATIONS GMBH et al.			
<p>1. This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and Industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 13.08.2003		Date of completion of this report 16.04.2004	
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Jäschke, H Telephone No. +49 89 2399-7139	



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**International application No. **PCT/IB 03/00513****I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-6 as originally filed

Claims, Numbers

1-8 as originally filed

Drawings, Sheets

1, 2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**International application No. **PCT/B 03/00513**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-8
Inventive step (IS)	Yes: Claims	
	No: Claims	1-8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

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- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

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International application No. **PCT/B 03/00513**

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	No: Claims	1-8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

- D1: GB 628547 A
- D2: GB 826810 A
- D3: US 2975381 A
- D4: US 2558385 A
- D5: PATENT ABSTRACTS OF JAPAN, vol. 016, no. 432 (E-1262) , 09.
September 1992 & JP 04 150401 A

The documents D1-D5 were not cited in the international search report.

2. Document D1 discloses a directional coupler (D1, page 2, lines 50-67)
- having two hollow waveguide sections (D1, page 3, lines 58-67; Fig. 2, features 35, 36)
 - connected to each other by a plurality of coupling openings (D1, page 3, lines 58-67; Fig. 2, features 35, 36) formed in a wall extending between the hollow waveguide sections (D1, page 3, lines 62-70; Fig. 2, features 31, 32),
 - two adjacent coupling openings (D1, Fig. 2, features 31, 32) having a distance of $(2n+1) \lambda_g/4$ from each other (D1, page 6; lines 4-22; claim 1), λ_g being the wavelength of the nominal centre frequency of the operating frequency range of the directional coupler and n being an integer.

Thus the subject matter of Claim 1 is not novel (Article 33(2) PCT).

2.1 Additionally document D1 discloses all additional subject matter of each of Claims 2, 4, 7 and 8.

Claim 2: See D1, claim 1.

Claim 4: See D1, Fig. 1 - 5.

Claim 7: See D1, page 5, lines 70 - 85; Fig. 1, 4, 5.

Claim 8: As soon as the spacing of the openings according to D1, page 6; lines 4-22; claim 1 becomes larger than $\lambda_g/4$, it is apparent from D1, Fig. 1 - 5 that the wall portions in between the coupling openings become also

larger than $\lambda_g/4$.

2.2 In addition it is pointed out that each of documents D2, D3, D4, D5 discloses the subject matter of Claim 1 and of some dependent claims.

2.3 Moreover, document D2 discloses all subject matter of all dependent claims not covered under paragraph 2.1:

Claim 3: See D2, Fig. 1, 2.

Claim 5, 6: Since the slot in document D2 comprises a rod in length direction with a length of $n \cdot \lambda/4$ at f_A D2, lines 49 - 52; Fig. 1 the slot has to have at least the same length. In the given example (see D2, page 2, lines 68 - 86; Fig. 4) f_A is about 1.5 times the operation wavelength and therefore the length of the coupling slot is larger than $\lambda_g/8$.

3. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of all claims is not new in the sense of Article 33(2) PCT.

3.1 The application does not meet the requirements of Rule 6.3(b) PCT, because the independent claims are not casted in the two part form.

3.2 The application does not meet the requirements of Rule 6.2(b) PCT, because the technical features mentioned in the claims are not provided with reference signs.

3.3 The application does not meet the requirements of Rule 5.1(a)(ii) PCT, because the background art (documents D1-D5) are not indicated in the description.